

# Notes on the Superfamily Evanioidea in Sweden with Keys to Families, Genera and Species (Hym., Apocrita)

By KARL-JOHAN HEDQVIST

Swedish Natural Science Research Council  
c/o Dept. of Ent., Swedish Museum of Natural History  
S-104 05 Stockholm, Sweden

## Abstract

HEDQVIST, K.-J. Notes on the superfamily Evanioidea in Sweden with keys to families, genera and species (Hym., Apocrita). — Ent. Tidskr. 94: 177—187, 1973.

The superfamily Evanioidea is revised and keys are given to the families, genera and species occurring in Sweden. All species described by Thomson are studied and lectotypes selected. Most of his species are synonymized with species described by Linné and Tournier as follows: *Gasteruption assectator* (L.) = *Foenus borealis* Thoms., syn.n., *F. fumipennis* Thoms., syn.n., *F. nigratarsis* Thoms., syn.n. and *F. bidentulus* Thoms., syn.n., and *Gasteruption minutum* (Tourn.) = *Foenus longigena* Thoms. syn.n.

The study of the superfamily Evanioidea in Sweden has been neglected for a long time. In the year 1883 Thomson treated the genus *Foenus* F. (a junior name for *Gasteruption* Latr.). He described 6 new species and produced a key to the species of the genus. After that time only Roman (1910, 1912, 1917, 1932, 1933, 1939) has contributed to our knowledge of these parasitic wasps by giving some notes on the synonymes of species belonging to *Gasteruption* Latr., *Aulacus* Jur., *Pristaulacus* Kieff. and *Evania* F.

The superfamily Evanioidea differs from

the other Apocrita (Terebrantes) of Hymenoptera in having petiole inserted very high on propodeum (fig. 1 A, 2, 3). Two genera, *Hybrizon* Fall. and *Cenocoelius* Hal. of the family Braconidae, have petiole inserted high on the propodeum, but they have no costal cell in the fore wings. Antennae have 14 joints in females and 13 joints in males, maxillary palpi have 6 segments and labial palpi 4 segments. Fore wing with a costal cell and hind wing with almost obsolete venation.

Evanioidea are divided into three families: Evaniidae, Aulacidae and Gasteruptiidae.

## Key to the families of Evanioidea

1. Fore wing with two recurrent veins, three closed discoidal cells and three cubital cells. Antennae inserted just above a level with anterior margin of eyes ..... Aulacidae
- Fore wing with only one recurrent vein or none, two discoidal cells, if three then the third open and two cubital cells or none. Antennae inserted about on a level with middle of eyes ..... 2.
2. Distinct, slender petiole as long as gaster. Ovipositor not exerted ..... Evaniidae
- Petiole not distinct, gaster gradually clavate. Ovipositor exerted ..... Gasteruptiidae

## Family Evaniidae

Two Swedish species belonging to separate genera, readily recognized by the wing venation. Both species are parasitic in the egg capsules of cockroaches (Blattidae).

*Brachygaster minuta* (Oliv.)

Olivier, Enc. méth. 6: 453, 1791 (*Evania minuta*).

♀. (fig. 1 A) Black with legs and gaster sometimes dark brown or dark red.

Head and thorax with umbilicate punctures, interspaces with very fine striation. Gaster and legs finely shagreened. Fore wing (fig. 1 B) with reduced veins.

♂. Similar to the female but with scape a little longer than 2nd and 3rd joints combined.

Length: 3—4.5 mm.

Distribution: Europe.

## Material seen from Sweden:

Skåne: Åhus 5.vii.63 1 ♀, 18.vii.60 1 ♀ (K.-J. Hedqvist); Brösarp 11.vii.56 1 ♀ (K.-J. Hedqvist); Kullaberg 25.vi.64 1 ♀ (K.-J. Hedqvist); Skärälid 21.iii.49 1 ♀ (O. Lundberg); without loc. 4 ♂ (C. H. Boheman). — Småland: Strömserum 16.vii.42 1 ♀ (O. Lundblad); Bodafors 16.vii.40 1 ♀ (O. Lundblad); Hornsö, Långemåla 18.vii.42 1 ♀ (O. Lundblad); Myresjö, Bjädersjöholm 12.ix.22 1 ♀ (D. Gault); Loftahammar, Bjursund 17.vii.68 1 ♀ (V. Norling); without loc. 6 ♂ (C. H. Boheman). — Öland: Borgholm 10.viii.23 1 ♀ (E. Wahlgren); without loc. 1 ♀ (C. H. Boheman). — Gotland: Visby 24.vii.56 1 ♀ (O. Lundblad); without loc. 1 ♀ (C. H. Boheman). — Östergötland: Simonstorp 8.vii.62 1 ♀ (B. Ehnström). — Uppland: Almunge, Harpabol 29.viii.52 1 ♀ (O. Lundblad). — Gästrikland: Hille 15.viii.49 1 ♀ (Kj. Fahlander). — Dalarna: Hamra Nationalpark 17.vii.27 1 ♀ (O. Lundblad). — Hälsingland: Järvsö —.vii.13 1 ♀ (Chr. Aurivillius). — Jämtland: Frösön 4.viii.33 1 ♀ (Kj. Fahlander). — Västernorrland: Hällnäs 24.vi.54 1 ♀ (K.-J. Hedqvist). — Norrbotten: Sören 29.vii.71 1 ♀ (K.-J. Hedqvist). — Lycksele Lappmark:

Sikselberg. —.vii.42 1 ♀ (K.-J. Hedqvist). — Lule Lappmark: Jokkmokk 29.vii.63 1 ♀ (K.-J. Hedqvist).

Biology: *Brachygaster minuta* is fairly common in Sweden. Most of the imagines occur in July and August and can then be caught on bushes and low plants. Specimens are also seen on flowers such as *Asparagus officinalis* and *Angelica archangelica*. In Sweden parasite in oothecae of *Ectobius lapponicus* (L.). Crosskey (1951) mentions also *Blatella germanica* (L.) as a host.

*Evania appendigastra* (L.)

Linné, 1758, Syst. Nat. ed. 10, 1: 566 (*Ichneumon appendigaster*).

Syn: *Evania laevigata* Olivier, 1791, Encycl. méth., 6: 453.

*Evania fuscipes* Illiger, 1817, Fauna Etrusca ed. 2, 2: 83.

♀. Black with legs and gaster dark brown.

Head shining with fine punctures, face with few scattered small pits and fine, white hairs. Malar space as long as half the length of an eye. Mandibles with two teeth. Occiput margined. POL nearly twice OOL. Antennae inserted nearer to mid ocellus than to base of clypeus. Thorax with mesonotum shining and notauli deep, and with fine micropunctures and few scattered small pits all over the mesonotum. Scapulae with parapsidal furrows. Scutellum with the same puncturation as mesonotum. Thorax laterally with micropunctures and scattered pits. Propodeum with coarse shallow reticulation. Legs with very fine micropunctures, hind tibiae and hind coxae with scattered small pits. Gaster shining with only a band of white small hairs on each tergite. The whole body with more or less dense white pubescence. Ovipositor not exerted. Fore wing see fig 1 C.

♂. Similar to the female but 3rd and 4th joints of antenna longer.

Length. 8—9 mm.

Distribution. Cosmopolitan.

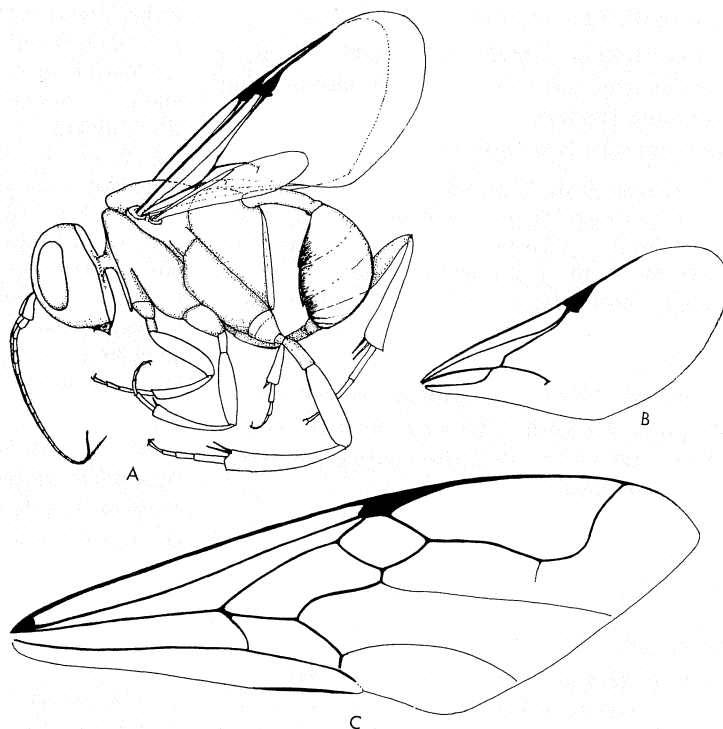


Fig. 1. A—B. *Brachygaster minuta* (Oliv.). A, Female, B, Fore wing. — C. *Evania appendigastra* (L.), fore wing.

Reported from Sweden but no Swedish specimens seen by the author.

Biology: *Evania appendigastra* is mentioned as a parasite of oothecae of Cockroaches, viz. *Blatta orientalis* L. and *Periplaneta americana* (L.).

#### Family Aulacidae

In Sweden the Aulacidae are represented by two genera: *Aulacus* Jur. and *Pristaulacus* Kieff., which can be distinguished as follows:

1. Claws with more than two teeth (fig. 2 D) ..  
..... *Pristaulacus* Kieff.
- Claws with only one tooth (fig. 2 C) .....  
..... *Aulacus* Jur.

#### *Pristaulacus gibbator* (Thunb.)

Thunberg, 1822, Mém. Acad. St.-Pétersb. 8: 270, (*Ichneumon gibbator*).

Syn: *Aulacus esenbecki* Dahlbom, 1837, Isis (Oken) 4: 176.

♀. Black with mouthpart and legs red (variation in the colour of the legs). Gaster basally more or less red. Wings with yellowish tint.

Head shining with fine punctures, on vertex and temples partly fading out. Antennae inserted just above the level of anterior margin of the eyes. Malar space about 1/3 the length of an eye. POL=OOL. Occiput with a margin. Thorax dorsally with fine punctures and transverse striation, laterally with fine punctures and with all sutures wrinkle. Propodeum with strong transverse carinae. Gaster with alutaceous puncturation, at base with longitudinal striation. Ovipositor as long as the whole body or longer. Fore wing see fig. 2 E.

♂. Similar to the female.

Length: 12.5—15.5 mm.

Distribution: *Pristaulacus gibbator* is a rare species only known from Sweden and Germany (Bayern).

Material seen from Sweden:

Öland: Böda 3—8.vii.39 1 ♂ (B. Hansson). — Östergötland: without loc. 2 ♀ (P. Wahlberg). — Södermanland: Järna 15.iii.71 20 ♀ 10 ♂ (R. Baranowski). — Uppland: Stockholm —. 1 ♀ 1 ♂ (C. J. Schönherr).

Biology: Several specimens reared by R. Baranowski from Norway spruce (*Picea abies*) attacked by *Callidium coriaceum* Payk. (Cerambycidae).

### *Aulacus striatus* Jur. (Fig. 2 A)

Jurine, 1807, Nouv. Méth. Hym. p. 89, 90.

Syn: *Aulacus arcticus* Dahlbom, 1837, Isis (Oken) 4: 174, 175.

*Aulacus exaratus* Giraud, 1854, Verh. zool. bot. Ver. Wien 4: 605.

♀. Black with legs and gaster red, sometimes legs more or less black and the base and apex of gaster black.

Head shining with transverse striation, finer on vertex and temples, the latter with scattered punctures. Antennae inserted just above a level with anterior margin of eyes. Mandibles with 3 teeth. Malar space nearly as long as the length of an eye. POL as long as OOL. Occiput not margined. Thorax dorsally with strong, transverse striation, laterally and on propodeum rugose. Gaster smooth except at extreme base (petiole), the latter finely rugose. Ovipositor as long as or longer than gaster. Fore wing (fig. 2 B).

♂. Similar to the female.

Length: 7—9.5 mm.

Distribution: Whole Europe.

Material seen from Sweden:

Skåne: Åhus 20.vi.57 2 ♀ (K.-J. Hedqvist); Skärälid 19.vii.44 1 ♀ (N. A. Kemner); Arkels-torp 4.vii.19 1 ♀ (leg.). — Blekinge: Bräkne

Hoby, Sjöarp 12.vi.40 2 ♀, 15.vi.40 2 ♀, 16.vi.40 7 ♀ (K.-J. Hedqvist); 17.vi.50 3 ♀ (B. Lekander). — Småland: without loc. 1 ♂ (G. H. Boheman). — Östergötland: without loc. 3 ♀ (P. Wahlberg). — Västergötland: without loc. 2 ♂ (C. H. Boheman). — Uppland: Norrtälje —.ix.72 2 ♀ (C. Tornberg); Munsö 16.iv.71 5 ♂ (R. Baranowski); Munsö —.—11 1 ♀ (G. A. Ringselle). — Dalarna: 1 ♀, only labelled Dalarna. — Jämtland: without loc. 2 ♀ (C. H. Boheman). — Västerbotten: Bygdeå 16.vii.25 1 ♀ (Kj. Fahlander); Hällnäs 12.vi.39 1 ♀ 1 ♂, 7.vii.43 1 ♀, 24.vii. 43 1 ♀ (K.-J. Hedqvist).

Biology: *Aulacus striatus* is a parasite of *Xiphydria camelus* (L.) and *Xiphydria prolongata* (Geoff.). Imagines are observed on the blossoms of Apiaceae (Umbelliferae).

### Family Gasteruptiidae

Only one genus in Sweden with 6 species, which can be distinguished by means of the following key.

### Key to the species of *Gasteruption* Latr.

♀♀.

1. Occipital margin of head with a raised, reflexed collar ..... 2.
- Occipital margin sharp but not with a raised, reflexed collar ..... 4.
2. Ovipositor longer than the body ..... 3.
- Ovipositor nearly as long as gaster ..... *G. erythrostomum* (Dahlb.)
3. Head with a median depression, deep and sharply defined in front of reflexed collar (fig. 5 E, F) .... *G. pedemontanum* (Tourn.)
- Head without any depression in front of reflexed collar (fig. 5 C, D) . *G. jaculator* (L.)
4. Ovipositor longer than the body ..... *G. subtile* (Thoms.)
- Ovipositor as long as half gaster or shorter ..... 5.
5. Malar space as long as base of mandible (fig. 4 E) ..... *G. minutum* (Tourn.)
- Malar space distinctly shorter than base of mandible (fig. 4 A) ..... *G. assectator* (L.)

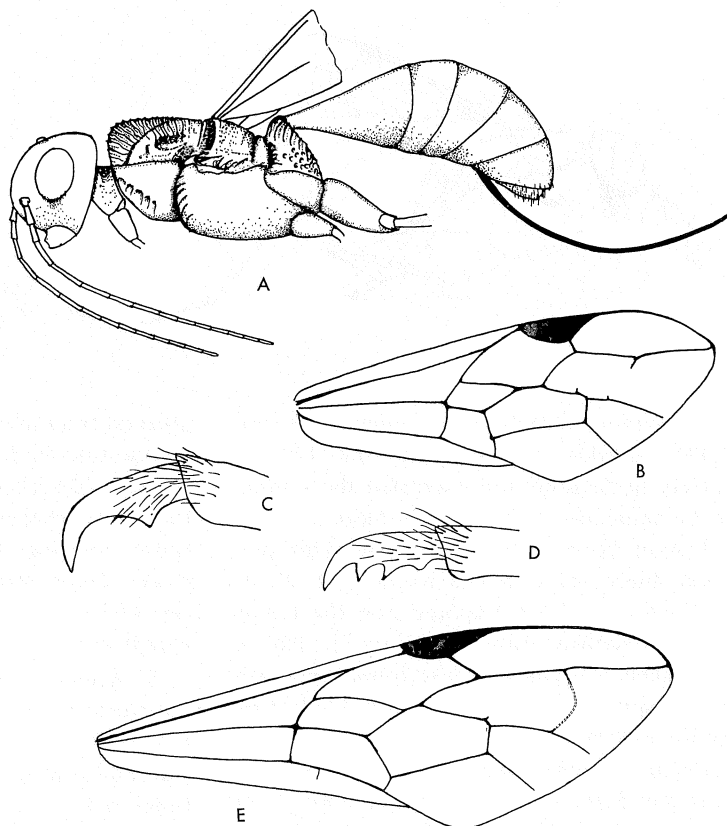


Fig. 2. A—C. *Aulacus striatus* (Jur.). A, Female, wings and legs (partly) not drawn, B, Fore wing, C, Claw. — D—E. *Pristaulacus gibbator* (Thunb.). D, Claw, E, Fore wing.

♂♂.

1. Occipital margin of head with a reflexed collar ..... 2.
- Occipital margin sharp but without any reflexed collar ..... 4.
2. Head with a median depression in front of the reflexed collar .. *G. pedemontanum* (Tourn.)
- Head without any depression in front of the reflexed collar ..... 3.
3. Thorax with strongly rugose puncturation. Mandibles dark brown .... *G. jaculator* (L.)
- Thorax with coriaceous puncturation. Mandibles yellowish . *G. erythrostomum* (Dahlb.)
4. Malar space as long as base of mandible ..  
..... *G. minutum* (Tourn.)
- Malar space distinctly shorter than base of mandible ..... 5.
5. Mesonotum finely coriaceous, hind tibia short,

strongly clavate a little longer than hind femur ..... *G. assectator* (L.)

— Mesonotum more or less rugose, hind tibia long and not so clavate, 1/2 as long as hind femur ..... *G. subtile* (Thoms.)

### *Gasteruption assectator* (L.) (Fig. 3)

Linné, 1758, Syst. nat. ed. 10, 1: 566, n. 49 (*Ichneumon assectator*).

Syn: *Ichneumon affectator* L. (Sic) Auctt.

*Foenus borealis* Thomson, 1883, Opusc. ent. fasc. 9: 849.

*Foenus fumipennis* Thomson, 1883, ibid.: 848.

*Foenus nigratarsis* Thomson, 1883, ibid.: 849.

*Foenus bidentulus* Thomson, 1883, ibid.: 848.

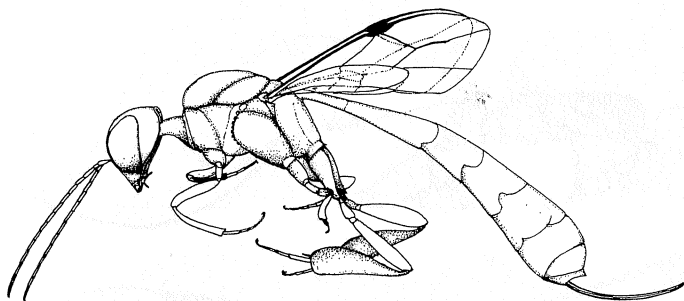


Fig. 3. *Gasteruption assectator* (L.) ♀.

*Ichneumon affectator* L. (auctt.). Roman (1932) studied the type in the Linnean Society in London and corrected the spelling of the name *assectator* for *affectator*.

*Foenus borealis* Thoms. In coll. Thomson, Lund, there are 4 specimens (3 ♂, 1 ♀). All the males are from Lapland and the female is from Norway (labelled "Norv."). The female specimen fits the description very well and in spite of the wrong locality I select the female as lectotype.

*Foenus fumipennis* Thoms. This is a aberrant form of *G. assectator*. Two specimens stand under *F. fumipennis*, only one has fumate wings and is selected as lectotype. It has deformed veins in fore wing.

*Foenus nigratarsis* Thoms. 12 specimens. One female from Lund (labelled "Sc.") is selected as lectotype.

*Foenus bidentulus* Thoms. I cannot find a good character distinguishing it from *G. assectator*. One specimen from Gotland is selected as lectotype.

♀. Black with 3 orange-red marks on each side of gaster, sometimes segments 3 and 4 of gaster nearly entirely red. Underside of hind tibiae towards the base with a yellowish white mark. Antennae beneath dark reddish brown as also sometimes all tarsi, seldom fore and mid tibiae.

Head (fig. 4 A, B) without reflexed collar, finely shagreened. Malar space very short. Eye commonly with a short pubescence (sometimes glabrous). POL nearly 1 1/2 times as long as OOL. Thorax more strongly shagreened than head. Pronotum with small pits, mesonotum in front of scutellum finely reticulated. Mesopleuron strongly shagreened to finely reticulated. Propodeum reticulated. Gaster and legs very finely shagreened, hind coxae more strongly shagreened than the rest of legs. Ovipositor nearly as long as half length of gaster.

♂. Similar to the female but with stronger puncturation on thorax and with 4 orange-red marks on each side of gaster. All tarsi, fore and mid tibiae and a basal ring on hind tibiae red.

Length: ♀ 7—13 mm; ♂ 8—12 mm.

Distribution: Europe, Asia Minor, Siberia, Algeria and also the eastern part of North America.

#### Material seen from Sweden:

Skåne: Åhus 5.vii.67 1 ♀, 11.vii.69 1 ♂ (K.-J. Hedqvist); without loc. 3.vii.10 1 ♀, 14.vii.02 1 ♂, 23.vii.02 1 ♂ (A. Roman); without loc. 1 ♀ (C. H. Boheman). — Blekinge: 1 ♀, only labelled Blekinge. — Halland: Kamp 2.vii.12 2 ♀, 4.vii.08 1 ♂, 6.vii.08 1 ♀ (A. Roman); Breared 24.viii.18 1 ♀ (A. Roman); Nobynäs —. 2 ♀ (leg.?). — Småland: Södra vi 2.vii.26 1 ♀ (D. Gaunitz); Korsberga by —.viii.48 1 ♀ (D. Gaunitz). — Öland: Halltorp —.40 2 ♀ (V. Heinze); Glömminge 20.vii.32 1 ♀ (G. Hedgren). — Gotland: Ardre 10.viii.26 1 ♀, 13.viii.26 1 ♀ (G. Hedgren); Ljugarn 16.viii.26 1 ♀ (G. Hedgren); Kylle 4.vii.54 1 ♂, 5.vii.54 2 ♀ 1 ♂, 9.vii.54 1 ♀ (E. Kjellander). — Gotska Sandön: —. 2 ♀ 2 ♂ (A. Jansson). — Östergötland: Simonstorp 10.vi.54 1 ♂

(K.-J. Hedqvist); Borensberg 19.vi.23 1 ♀ (C. B. Gaunitz); Åby —. 5 ♀ 2 ♂ (C. H. Boheman); Finspång 4.vii.61 1 ♀ (V. Heinze); Ö. Husaby 25.vii.65 1 ♀, 25.vii.68 1 ♀, 23.ix.68 1 ♂ (V. Norling). — Västergötland: V. Bodarna 11.vii.34 2 ♀ 1 ♂, 23.vii.34 1 ♂ (G. Hedgren). — Bohuslän: Ödsmål, Näs 25.vii.41 2 ♀ 2 ♂ (B. Hansson). — Värmland: without loc. 12.vii.36 1 ♂, 14.vii.36 1 ♀ (A. Roman). — Södermanland: Sparreholm 17.viii.52 1 ♀ (E. Kjellander); Trosa, Lacka 6.vii.32 1 ♀ (A. Roman); Runmarö 3.vii.53 1 ♂ (E. Kjellander). — Uppland: Rådmansö, Östernäs 31.vii.70 2 ♀ (S. Erlandsson); Värmdö 21.vi.25 1 ♂, 5.vii.25 1 ♀ 1 ♂, 9.vii.22 1 ♂, 15.vii.25 1 ♀, 21.vii.25 2 ♂ (G. Hedgren); Svartsjö 25.vi.22 1 ♂, —vi.21 1 ♂ (G. Hedgren); Björkö 4.vii.36 1 ♂, 8.vii.36 1 ♂, 18.vii.36 1 ♂, 30.vii.36 1 ♀ (G. Hedgren); Grisslehamn 15.vii.35 1 ♂ (G. Hedgren); Danderyd 20.vi.32 1 ♀, 20.vi.37 1 ♀, 23.vi.06 1 ♀, —vii.47 1 ♂, 8.vii.41 1 ♂, 12.vii.04 1 ♀ (A. Roman); Munkö 17.vii.38 1 ♀ (G. Hedgren). — Gästrikland: Hille 3.viii.56 1 ♀ (Kj. Fahlander). — Dalarna: Leksand, Sångån 11.vii.71 1 ♀ (T. Tjeder); Ludvika, Hällänget 21.vi.39 1 ♂ (E. Wieslander); Sundborn, Karlsby 25.vii.44 1 ♀ (O. Lundblad). — Hälsingland: Järvsö 3.vii.13 1 ♀, 6.vii.22 1 ♀ 1 ♂, 7.vii.22 1 ♀, 9.vii.13 1 ♀, 12.vii.13 3 ♀ (A. Roman); Los 27.vi.42 1 ♀ (O. Lundblad). — Västerbotten: Hällnäs 20.vi.47 1 ♀, 11.vii.39 1 ♂, 11.vii.45 1 ♀, 24.ix.42 1 ♂ (K.-J. Hedqvist). — Lycksele Lappmark: Sikselberg 15.vii.42 1 ♀ (K.-J. Hedqvist). — Lule Lappmark: Gällivare —. 1 ♀ (Borg).

*G. assectator* is a common species in Sweden and can be seen from the end of June to the end of August. It is a parasite of species of *Prosopis* F. (Colletidae) nesting in stems of *Rubus*. *G. assectator* is visiting flowers of Apiaceae (Umbelliferae) such as *Anthriscus sylvestris*, *Daucus carota*, *Pastinaca sativa*, *Angelica sylvestris* and *Aegopodium podagraria*.

#### *Gasteruption jaculator* (L.)

Linné, 1758, Syst. nat. ed. 10, 1: 565, n. 48 (*Ichneumon jaculator*).

Syn: *Foenus granulithorax* Tournier, 1877,

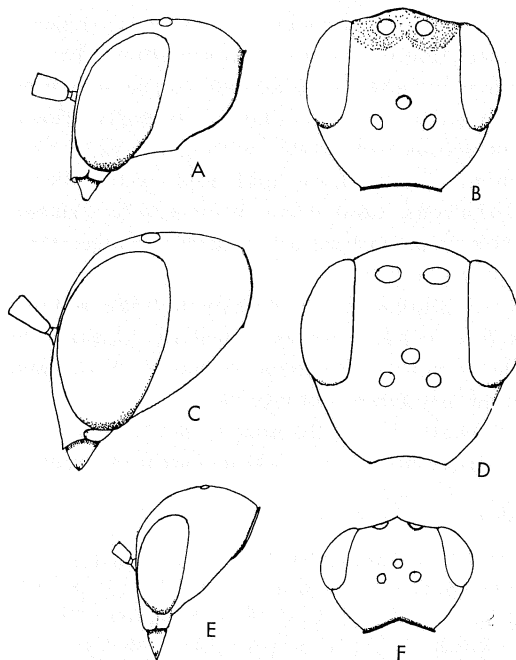


Fig. 4. A—B. *Gasteruption assectator* (L.), head. A, In lateral view, B, In dorsal view. — C—D. *G. subtile* (Thoms.), head. C, In lateral view, D, In dorsal view. — E—F. *G. minutum* (Tourn.), head. E, In lateral view, F, In dorsal view.

Annls Soc. ent. Belg. 20: VIII.

*Foenus oblitteratum* Abeille, 1879, Bull. Soc. Hist. nat. Toulouse. 30: 272.

*G. thomsoni* Schletterer, 1885, Verh. zool. bot. Ges. 35: 285, 323.

*G. distinguendum* Schletterer, *ibid.*: 274, 277, 318.

♀. Black with base of fore tibiae, mid and hind tibiae white—whitish yellow. Greater part of metatarsus white—yellowish white. All tarsi brown—blackish brown. Gaster with 2nd—4th segments (sometimes also 5th segment) laterally and ventrally reddish yellow. The tip of ovipositor white. Wing veins dark brown.

Head (fig. 5 C, D) very finely transversely strigose and with a reflexed collar. Malar space very short, as long as half the breadth of a mandible at base. POL twice as long as

OOL. Thorax strongly transversely strigose, more finally strigose on scutellum. Propodeum foveolate to reticulate rugose and with a median carina. Thorax laterally finely coriaceous, anteriorly with a strongly reticulate fovea. Fore and mid coxae finely coriaceous, hind coxae transversely striated. Ovipositor as long as or slightly longer than the whole body.

♂. Similar to the female but the reddish yellow colour on gaster usually localized to the junctions between segments 2—5, and hind metatarsus entirely black.

Length: ♀ 10—16 mm; ♂ 8—15 mm.

Distribution: The whole Palearctic region.

#### Material seen from Sweden:

Skåne: Åhus 27.vi.72 1 ♂, 1.vii.73 1 ♀ 1 ♂, 5.vii.68 2 ♂, 5.vii.73 1 ♂, 7.vii.72 3 ♀, 8.vii.73 2 ♀, 11.vii.69 4 ♀ 3 ♂ (K.-J. Hedqvist); Nosaby —.viii.06 5 ♀ (H. Rosen); Lund 25.vi.16 1 ♂ (S. Bengtsson). — Blekinge: Bräkne Hoby, Sjöarp 29.vii.39 1 ♂ (V. Butovitsch). — Småland: Strömserum 22.vii.43 1 ♀ (O. Lundblad). — Öland: Glömminge 14.vii.32 1 ♀ (G. Hedgren). — Gotland: without loc. 1 ♀ 4 ♂ (C. H. Boheman); without loc. 8.vii.1873 2 ♀ 1 ♂ (C. G. Thomson); Ardre 19.viii.20 1 ♀, 22.viii.26 1 ♂ (G. Hedgren); without loc. 18.vi.05 2 ♂ (A. Roman). — Östergötland: Åby 4.vii.? 1 ♀, 14.vii.? 1 ♀ (C. J. E. Haglund); without loc. 3 ♀ 1 ♂ (C. J. E. Haglund); without loc. 1 ♀ 1 ♂ (P. Wahlberg); only labelled Östergötland 1 ♀; Finspång 24.vi.70 1 ♀ (V. Heinze). — Västergötland: Stenum 3.viii.52 1 ♀, 8.viii.52 1 ♀ (E. Kjellander). — Värmland: N. Råda, Sjögränd 8.vii.59 1 ♀ (K. H. Forsslund); Lillsand —.viii.46 1 ♀ (C. B. Gaunitz). — Södermanland: Runmarö 2.vii.53 2 ♀, 3.vii.53 2 ♀ (E. Kjellander); Mölnbo 14.vii.40 1 ♀ (A. Roman); without loc. 20.vii.13 1 ♀ (A. Roman); without loc. 1 ♀ (Chr. Aurivillius). — Uppland: Björkö 18.vii.36 1 ♀, 22.vii.36 1 ♀ (G. Hedgren); Värmdö 28.vi.25 1 ♀, 5.vii.24 1 ♂ (G. Hedgren); Svartsjö —.vii.21 1 ♂, 17.viii.22 1 ♀, 20.viii.22 2 ♀ (G. Hedgren); without loc. 1 ♀ (C. H. Boheman); without loc. 1 ♀ (C. Stål); without loc. 15.vii.1877 1 ♀ (C. G. Thomson); without loc. 1 ♀ (O. Lundblad); only labelled Uppland 2 ♀ 1 ♂; Furusund 1.vii.22 1 ♀ 1 ♂, 1.viii.22 1 ♀ (G. Hedgren); Uppsala 18.viii.12

1 ♀, 9.vii.09 1 ♀, 21.vii.12 2 ♂ (A. Roman). — Gästrikland: Hille 23.vi.53 1 ♀, 7.vii.48 1 ♀, 7.vii.61 2 ♀, 10.vii.56 1 ♀, 15.vii.56 1 ♂, 21.vii.50 1 ♀, 22.vii.51 1 ♂, 22.vii.63 1 ♀, 23.vii.57 1 ♀, 27.vii.42 2 ♀, 27.vii.51 1 ♀, 29.vii.57 1 ♀, 6.viii.54 1 ♂, 14.viii.54 1 ♀ (Kj. Fahlander). — Dalarna: Sundborn, Karlsbyn 25.vii.46 1 ♀ (B. Tjeder). — Hälsingland: Järvsö 22.vii.22 1 ♀ (A. Roman).

Biology: *G. jaculator* is very common in southern Sweden from the end of June to the end of August. Imagines are visiting flowers, viz. *Daucus carota*, *Angelica sylvestris*, *Pastinaca sativa* and *Aegopodium podagraria* (Apiaceae=Umbelliferae). It is recorded as a parasite of species of *Pemphredon* Latr. (Sphecidae), *Prosopis* F. (Colletidae), *Osmia* Latr. (Megachilidae) and *Odynerus* Latr. (Eumenidae) nesting in burrows of wood-boring insects.

#### *Gasteruption erythrostomum* (Dahlb.)

Dahlbom, 1833, Exerc. hym., fasc. 6: 78 (*Foenus erythrostomus*).

In the Entomological Museum of Lund University there stands 1 specimen collected by Marklin in province Västergötland. It is the specimen which Dahlbom described as the new species *Foenus erythrostomum*. I select it as lectotype.

♀. Black with mandibles conspicuously yellow, segments of gaster 2—3 yellowish brown—yellowish red. Legs except coxae more or less dark brown with base of hind tibiae yellowish white.

Head (fig. 5 A, B) with reflexed collar and shagreened. Malar space as long as half the width of a mandible at base. POL a little longer than OOL. Thorax more strongly shagreened than head, mesepisternum and propodeum rugose. Gaster and legs except hind coxae finely shagreened, hind coxae finely striated. Ovipositor nearly as long as gaster.



♂. Similar to the female but the puncturation a little stronger.

Length: ♀. 9—11 mm; ♂. 9—10 mm.

Distribution: Europe and Asia minor.

Material seen from Sweden:

Småland: without loc. 4 ♀ 1 ♂ (C. H. Boheman). — Östergötland: without loc. 1 ♀ 1 ♂ (P. Wahlberg). — Västergötland: without loc. 1 ♂ (C. J. Schönherr). — Bohuslän: without loc. 1 ♀ (C. H. Boheman). — Uppland: Stockholm —. 1 ♂ (C. H. Boheman); Uppsala 25.vi.06 1 ♀, 24.vii.10 2 ♀ (A. Roman). — Hälsingland: Järvsö 25.vi.06 1 ♀, 7.vii.22 5 ♀, 12.vii.13 6 ♀ 1 ♂, 13.vii.13 1 ♀ 2 ♂, 16.vii.13 4 ♀, 22.vii.22 5 ♀ 1 ♂, 24.vii.10 1 ♀ 1 ♂, 30.vii.22 2 ♀ (A. Roman).

Biology: The knowledge of *G. erythrostomum* is poor. No host-records.

### *Gasteruption minutum* (Tourn.)

Tournier, 1877, Annls Soc. ent. Belg. 20: IX (*Foenus minutus*).

Syn: *Foenus longigena* Thomson, 1883, Opusc. ent., fasc. 9: 849.

*Foenus longigena* Thoms. 1 specimen from Rönne Mölla (Skåne) fits the description and is selected as lectotype.

♀. Black with fore and mid tibiae red at base, underside of hind tibiae red on basal third. Gaster with red marks at the junctions of tergites 2—5. The mark of tergite 5 smaller than that of tergites 2—4. The segment 2 of gaster rufous underneath.

Head (fig. 4 E, F) without reflexed collar and finely shagreened. Malar space as long as the width of a mandible at base. POL almost as long as OOL. Thorax shagreened, propodeum finely wrinkled. Coxae and gaster finely shagreened. Ovipositor short, as long as 1st segment of gaster.

♂. Similar to the female but tergites 2—6 of gaster with red marks at the junctions. Puncturation is also stronger.

Length: ♀. 8—9 mm; ♂. 8—9 mm.

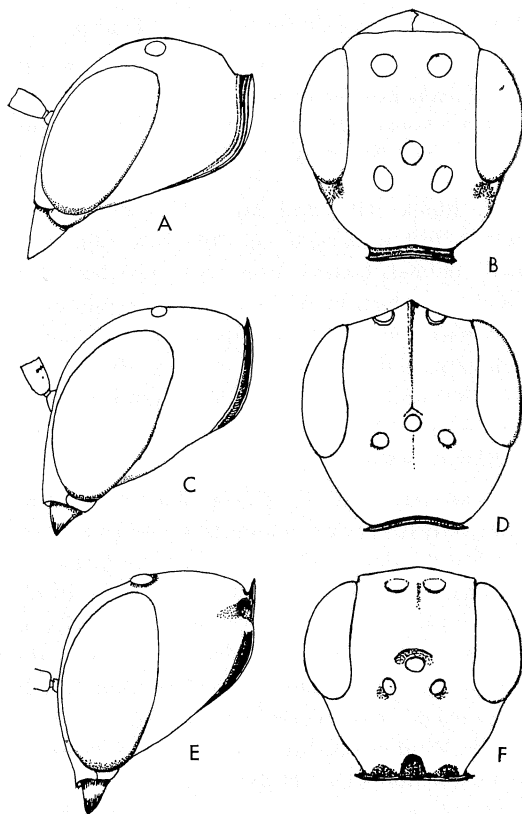


Fig. 5. A—B. *Gasteruption erythrostomum* (Dahlb.), head. A, In lateral view, B, In dorsal view. — C—D. *G. jaculator* (L.), head. C, In lateral view, D, In dorsal view. — E—F. *G. pedemontanum* (Tourn.), head. E, In lateral view, F, In dorsal view.

Distribution: England, France, Sweden, Switzerland and Italy.

Material seen from Sweden:

Skåne: Rönne Mölla —. 1 ♀ (C. G. Thomson). — Västergötland: without loc. 1 ♂ (C. J. Schönherr).

Biology: *G. minutum* is very rare in Sweden and nothing is known about its habits and life-history. From England Crosskey (1951) mentions that imagines occur from June to August, and that one specimen is collected on the Cow Thistle (*Sonchus arvensis*).

*Gasteruption pedemontanum* (Tourn.)

Tournier, 1877, *Annls Soc. ent. Belg.* 20: VII (*Foenus pedemontanum*).

Syn: *Foenus terrestre* Tournier, 1877, *Annls Soc. Ent. Belg.*, 20: VIII.

♀. Black with 2nd and 3rd segments of gaster and underside of 4th—5th yellowish red—reddish brown. Fore legs, mid legs and hind tarsi dark brown with base of all tibiae yellowish white, sometimes also a small yellowish white mark on extreme distal part of fore and mid tibiae. Metatarsus with a yellowish white mark. Tip of ovipositor yellowish white.

Head (fig. 5 E, F) finely shagreened and with reflexed collar, which has a deep median depression and a shallow lateral depression on each side. Malar space very short. POL: OOL=1.5:1. Thorax with strongly strigose to reticulate rugose puncturation, finer on pronotum. Propodeum reticulate punctured. Legs except hind coxae finely shagreened as gaster. Hind coxae finely wrinkled. Ovipositor as long as the whole body.

♂. Similar to the female but only distal ends of segments 2nd—3rd and sometimes 4th red.

Remarks: The colour of legs is variable, sometimes are the yellowish white markings reduced or wanting.

Length: ♀. 11—16 mm; ♂. 8—15 mm.

Distribution: Nearly whole Palearctic region.

## Material seen from Sweden:

Öland: Nabben 17.vii.—20.vii.38 1 ♂ (N. Bruce). — Gotland: Slite 9.vii.54 1 ♀ (E. Kjellander). — Bohuslän: Ödsmål, Näs 25.vii.41 1 ♀ 1 ♂ (B. Hansson). — Södermanland: Runmarö 2.vii.53 1 ♀ (E. Kjellander); without loc. 1 ♂ (O. Sjöberg). — Östergötland: without loc. 3 ♀ 2 ♂ (P. Wahlberg). — Uppland: Älvkarleby 5.vii.59 1 ♀ (Kj. Fahlander); Lidingö —.vii.38 1 ♂ (N. Ekvall); Värmdö 13.vii.25 1 ♂ (G. Hedgren); without loc. 8.vii.41 1 ♂ (?).

*Ent. Tidskr.* 94 · 1973 · 3—4

Biology: *G. pedemontanum* occurs in Sweden in July on flowers of Apiaceae (Umbelliferae) such as *Anthriscus sylvestris*, *Daucus carota* and *Pastinaca sativa*. Bees of the genus *Osmia* Latr. (Megachilidae) are mentioned as hosts.

*Gasteruption subtile* (Thoms.)

Thomson, 1883, *Opusc. ent.*, fasc. 9: 847 (*Foenus subtilis*).

In coll. Thomson (Zool. Inst., Dept. of Systematics, University of Lund) there stand 7 specimens under *Foenus subtilis*. 1 female ("Norl.") is selected as lectotype.

♀. Black with segments 2—3 more or less red, sometimes a red mark on posterior part of segment 4. Legs dark brown with metatarsus (except base) and a basal ring of hind tibia yellowish white. Ovipositor with apical part yellowish white.

Head (fig. 4 C, D) without reflexed collar and finely shagreened. Malar space very short. POL: OOL=1.2:1. Thorax strongly shagreened, partly wrinkled. Propodeum rugose. Legs and gaster shagreened. Ovipositor longer than the whole body.

♂. Similar to the female.

Remark: The colour of legs is variable, the yellowish white markings being more or less distinct.

Length: ♀. 11—16 mm; ♂. 10—15 mm.

Distribution: Finland, Sweden, Switzerland, Siberia.

## Material seen from Sweden:

Skåne: without loc. 18.viii.04 1 ♀ (leg. ?). — Östergötland: Ö. Husaby 24.vii.68 1 ♀ (V. Norling). — Uppland: Lenna —.viii.07 1 ♀ (E. Wirén); Stockholm 5.vii.19 1 ♀ (leg. ?); Grisslehamn 16.vii.35 1 ♀, 19.vii.35 1 ♀ (G. Hedgren). — Dalarna: Sundborn, Toxen 1.vii.61 1 ♀ (E. Klefbeck); Ludvika 13.vii.17 1 ♀ (K. H. Forsslund); Floda —. 1 ♀ (B. Tjeder); Sundborn, Toxen 19.vii.42 1 ♂ (E. Klefbeck). — Hälsingland: Järvsö 3.vii.13 2 ♀, 12.vii.13

4 ♀, 12.VII.22 3 ♀, 16.VII.13 4 ♀, 18.VII.22 1 ♀ (A. Roman). — Västerbotten: Hällnäs 5.VIII.34 1 ♀ (G. Dahlström).

Biology: *G. subtile* is imperfectly known, no host-records.

### Acknowledgements

I would like to thank Professor Carl H. Lindroth (Zoological Institute, Dept. of Systematics, University of Lund) for loan of material.

My grateful thanks to all my friends among entomologists, who have sent me valuable material.

### References

- ABEILLE DE PERRIN, E. 1879. Essai de classification des espèces françaises de genre *Foenus* Fab. — Bull. Soc. Hist. nat. Toulouse. 13: 260—279.
- CAPRON, E. 1879 and 1880. Notes on Hymenoptera. — Entomologist 12: 15; 13: 89.
- CROSSKEY, R. W. 1951. Part I. The morphology of the British *Evanioidae*. Part II. The taxonomy and biology of the British *Evanioidae*. — Trans. R. ent. Soc. Lond. 102: 248—301.
- FERRIERE, C. 1946. Les Gasteruption de la Suisse. — Mitt. schweiz. ent. Ges. 20: 232—248.
- HEDICKE, H. 1939. Hymenopterorum Catalogus. Pars 9. *Evaniidae*: 1—50. — Pars 10. *Aulacidae*: 1—28. — Pars 11. *Gasteruptionidae*: 1—54. Junk, s-Gravenhagen.
- HELLÉN, W. 1915. Zur Kenntnis der Evaniiden Finnlands. — Meddn. Soc. Fauna Flora fenn. 41: 67—69.
- 1950. Die Evaniiden Finnlands (Hym.). — Notulae Ent.- 30: 1—5.
- HÖPPNER, H. 1904. Zur Biologi der Rubus-Bewohner. — Allg. Zeits. Ent. 9: 97—103.
- KIEFFER, J. J. 1912. *Evaniidae* in: Tierreich 30: 1—432. Berlin.
- KOHL, F. F. 1912. Über einige seltene Hymenopteren aus Tirol. — Verh. zool. bot. Ges. Wien. 62: 57—63.
- MUESEBECK, C. F. W., KROMBEIN, K. V. & TOWNES, H. K. 1951. Hymenoptera of America North of Mexico. Synoptic Catalog. — Agriculture Monogr. 2: 1—1420. Washington DC.
- ROMAN, A. 1910. Notizen zur Schlupfwespen-sammlung des schwedischen Reichsmuseums. — Ent. Tidskr. 31: 109—196.
- 1912. Die Ichneumonidentypen C. P. Thunbergs. — Zool. Bidr. Upps. 1: 229—293.
- 1917. Skånska parasitsteklar. — Ent. Tidskr. 36: 260—284.
- 1932. The Linnean types of Ichneumon flies. — Ent. Tidskr. 53: 1—16.
- 1933. A few old Ichneumonid genotypes. — Ent. Tidskr. 54: 37—39.
- 1939. Nordische Ichneumoniden — und einige andere. — Ent. Tidskr. 60: 176—205.
- SCHLETTERER, A. 1889. Der Hymenopteren-Gruppe der Evaniiden. — Annln naturh. Mus. Wien. 4: 107—180, 289—338, 373—546.
- SCHMIEDEKNECHT, O. 1930. Die Hymenopteren Nord- und Mitteleuropas. Jena. 1—1062.
- SEMENOV, A. 1892. Revisio Hymenopterorum Mus. Zool. Acad. Caesareae Scient. Petropol. Fam. III *Evaniidae*. — Bull. Acad. Sci. St Petersburg. 3: 192—218 (1894).
- SHORT, J. R. T. 1952. The morphology of the head of larval *Hymenoptera* with special reference to the head of *Ichneumonoidea* including a classification of the final instar of the *Braconidae*. — Trans. R. ent. Soc. Lond. 103: 27—84.
- SHUCKARD, W. E. 1841. On the *Aulacidae* and the *Evaniidae*. — Entomologist 1: 115—121, 124—125.
- THOMSON, C. G. 1883. Öfversigt af de i Sverige funna arter af Hymenopter-släktet *Foenus*. — Opusc. ent. 9: 845—850. Lund.
- TOURNIER, H. 1877. Tableau synoptique des espèces européennes de genre *Foenus* Fabr. (Hyménoptères). — Annls Soc. ent. Belg. 20: VI—X.
- TOWNES, H. 1949. The Nearctic species of *Evaniidae* (Hymenoptera). — Proc. U.S. natn. Mus. 99: 525—539.
- 1950. The Nearctic species of *Gasteruptionidae* (Hymenoptera). — Proc. U.S. natn. Mus. 100: 85—145.